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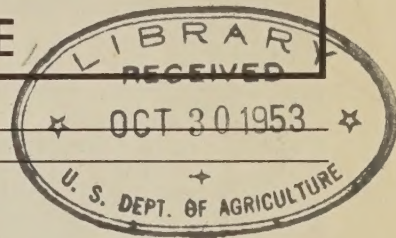
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WORK and MANAGEMENT IMPROVEMENT



2 U.S. SOIL CONSERVATION SERVICE

March 1, 1953



IT SAVES BOTH TIME AND STAKES

How many hundreds of thousands of miles of broadbase terraces have been built since 1935? The number of man-hours and stakes used in laying them out are beyond estimate, and whatever short cut can be devised to speed the work is sure to reflect huge savings if widely applied.

Marion B. Sims, an engineering aid in the Soil Conservation Service in Colorado, was well aware of this, and contrived to work out a way to cut down the number of stakes and the amount of time involved.

Any one who has ever used a contour pen knows that the pen automatically interpolates between plotted contour points when drawing in the contour. When staking a terrace, we essentially stake contour points, and it is necessary to interpolate between them in some way to maintain a constant curve. This is usually done by a tractor plowing a furrow, as the steady guidance of the tractor has the same effect as the contour pen.



But Marion Sims found that when he got through staking, the farmer, with his tractor, was very seldom there to do the marking. So he had to leave his stakes in and come back later to guide the farmer and his tractor.

On pondering this problem, Sims concluded he could do the job with his pickup if he had a plow gadget attached. So he contrived the plow gadget illustrated here. It consists of a salvaged disc blade mounted on a curved band of steel which is hinged by two bolts to the left rear bumper of the pickup in line with the left rear spring. It must be hinged to permit it to move up and down in conformance with the ground, and so it can be elevated and tied up when not in use.

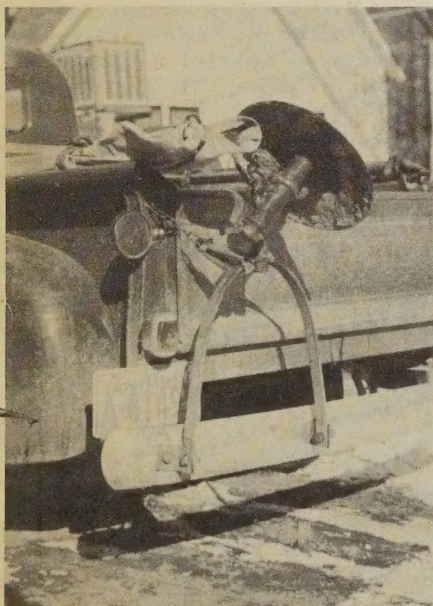
To bring sufficient pressure on the disk to make it plow a furrow, an old spring leaf is

adjusted to the top of the rear spring shackle, under the bumper and on top of the band that holds the disc. This spring pressure does the job when in place, but can be taken out when the disc is not in operation.

In use, the pickup is driven sufficiently to one side of the line of stakes so as to miss them. The farmer himself usually rides the left running board, picking up the stakes and throwing them in the pickup. The truck moves back and forth across the field until all terraces are marked; the aid can then go on to another job, using the stakes over again.

Savings? We can't compute them to a certainty, but big savings are made up from little savings and we know that this gadget economizes on both time and stakes--and gets the job done.

--K. C. Balcomb



TEACHING AND TREE-PLANTING ON MASS SCALE

By recruiting all types of available assistance, 18 million trees have been planted in the Allegany County Soil Conservation District, N. Y., during the past 10 years. Robert Reed, area conservationist, says that 15,000 acres of formerly idle and unprotected land have been converted to useful production under this program, and are contributing their proper share of tax money to community treasuries. Several thousand school children who helped plant the trees gained practical experience and appreciation of conservation practices.

Examination of New York State laws revealed to the Allegany Soil Conservation District directors that schools could legitimately release children for the work if it could be shown that the aims of the program were educational. To effect this obligation, program supervisors devoted a fair amount of the youngsters' time to instruction in tree identification, growth factors and woodland management. Meanwhile, the children set out 500 seedlings a day each. Over the past decade, the schools released an average of 300 children for several days' work during tree-planting time each spring.

The boys and girls are paid a standard rate per hour. When working on school time, the money is usually split with their school and club (VO-Ag, FFA, 4-H, etc.) treasuries. Other youngsters--necessarily over 14 years of age by New York law--may plant trees on their own time. Recently their pay has averaged \$1.10 hourly.

When school buses have not been available, Allegany Soil Conservation District trucks have been equipped to transport youngsters to and from the job sites, and the district has provided special accident insurance for this coverage. Otherwise, transportation has been furnished by agencies cooperating in the reforestation--the New York Conservation Department and the Department of Public Works, in particular.

Soil Conservation Service personnel have shared in the supervision of the large groups of children at the planting sites. To distribute this responsibility, SCS men have attended all meetings of the numerous county agricultural organizations to secure help. They enlisted aid from organized sportsmen, Boy Scout leaders and vo-ag teachers. Cooperating public agencies also lent supervision and some Pittman-Robertson funds were used to hire supervisory personnel.

Reed feels that school interest has been perpetuated by a careful annual recapitulation of program results and particulars prepared for the use and records of principals, superintendents and school boards.



RESOURCEFUL TURN OF MIND

In his daily round of duties, it is a cloudy day in Arizona when Ellsworth G. Hendricks doesn't improvise a gadget to make work easier, or better, or quicker. Hendricks is management agronomist in the Tucson nursery of SCS. One wonders whether he is just more full of ideas than most of us or whether he just does what most of us would like to do but never get around to doing.

For example, Hendricks has devised a "screen box" which doubles the recovery of seed. He has improvised a "furrow-opener" which keeps the furrow open in sandy land, greatly increasing the effectiveness of planting. He has built a "suction box" which draws off light, cottony particles too near alike in specific gravity to the seed to be recovered to separate out in the cleaner. He has worked out a "portable fertilizer distributor" to assist in applying fertilizer in irrigation water; and another "fertilizer spreader" which places material in rows where it is needed instead of on the ridges. Furthermore, he has constructed a "drying drum" to accelerate seed-drying in the hot climate of southern Arizona.

How much are all these things worth to Uncle Sam? It is hard to say, but in labor alone they probably save \$1500 annually, let alone the increase of efficiency in use of materials.

People may not be beating a path to the door of Ellsworth Hendricks, but he certainly is hewing out a path of accomplishment.

--K. C. Balcomb

Allegany County Soil Conservation District intends to pursue its tree planting. Current plans call for the annual plantation of 2,500 acres. Enough stock to make a good start in the spring is bought in the fall and cold stored through the winter. Supplementary stock is ordered for delivery by April 1. The District reports their planting is most successful when confined to the period approximating March 15 to May 10.

TRENCHING TOOL SPEEDS NURSERY WORK

Origination of a new tool that boosts production of plants used in watershed stabilization recently earned a USDA cash award for James M. Flood, agricultural aid at the Big Flats, N. Y., SCS nursery.

Fifty per cent establishment of purple osier willow cuttings was the best record obtained in the annual spring plantings before adoption of the technique which Flood worked out in cooperation with Charles M. Clements, nursery manager. Rooting success jumped to 80 per cent with employment of the specially-designed trenching aid.

The two-handled, steel blade tool enables WAE girls to open bedwidth planting pockets with a single, pivoting thrust. Each thrust at the same time back fills the previous pocket around inserted cuttings. A piece of angle iron bolted to the blade acts as a depth gauge.

First used in 1951, the device was credited with an increase of 300,000 successful rootings--800,000 out of one million cuttings planted. In 1952, the increase amounted to 375,000--625,000 of a million and a quarter. At current valuation, the salvage represents \$10,000 for the two years.

The old method entailed hand-planting of individual sprigs in extensively prepared earth. The trenching system reduces the work of

preparation and speeds the planting operation to take advantage of favorable conditions. In addition, Big Flats nurserymen find that the denser plantations permit faster pulling for shipment.

MRS. MAC'S BLACK BOOK

There is no guesswork when you use the district ownership map and Mrs. Mac's Black Book. The SCS staff at Corning, Calif., exchanges a few minutes of Mrs. Mac's time for hours of hit-and-miss time in the office and field.

Mrs. Mac devised this system after watching farm planners and other shuffle photographs, farm plans and applications like playing cards. It looked like a game of stud poker with the hole card wild and old man inefficiency taking the house cut.

The system works something like this: The district ownership map shows the boundaries of each farm and the location number. It also shows boundaries of the conservation surveys by aerial photograph. Farm planners, engineers, and soils men need only to check the "Black Book" for a cooperators location number then turn to the ownership map and grab their hats.

The system works in reverse, and on each application taken in the office the land ownership number and aerial photograph are listed.

The "Black Book" contains other pertinent information such as cooperator's names in alphabetical and numerical order, dates, acreages and farm plans. It also includes farm applications in numerical order and by aerial photograph.

The author of this system is Mrs. Georgia McAfee, engineering aid, GS-4 and land leveler first-class. She is believed to be the only woman so classified in the Service.

--George Edmundson

The WHY of a Suggestion System

Why

- do we have a suggestion system?
- do we call it a "system"?
- do we ask all employees to send in their ideas?
- do we ask that you send your suggestions through channels?

Because

- we believe we need an orderly way to receive and utilize ideas for improving our work, a way that has been tried and proved many times in industry.
- it is a practical procedure for making sure that employee-ideas will be shared throughout the Service.
- we need everyone's help in doing the conservation job, and we believe work-improvement ideas are developed where the work is actually performed.
- we believe it encourages a constructive relationship between employer and supervisor, and we also believe the number and quality of employee suggestions is an index of the quality of supervision.

Write up your suggestions--share your good ideas with others. Also, how about writing a short article on your suggestion for this publication?

A NEW VACUUM SEED HARVESTER

Arthur A. Johnson, farm mechanic of the SCS Nursery at San Fernando, Calif., designed and built a vacuum seed harvester that collects ripe grass seed without damage to the plants, leaving the green seed to ripen and be collected later.

This machine is particularly useful in connection with grasses peculiar to conservation needs, especially having uneven seed ripening habits. When the seed heads shatter easily, the yield of good seed is relatively low under cultivation. By collecting the seed at intervals as it matures, more high quality seed per acre can be obtained. With more efficient seed production, widespread use of better grasses for conservation purposes is encouraged. The future of nodding stipa, an excellent native range grass with poor seed habits, is largely dependent on solving the harvesting problem.

Set to work on this problem, Johnson built a self-propelled harvester. He first reversed the steering gear, seat, and control pedals on a medium-sized wheel tractor. Then he mounted a powerful exhaust fan on the "new" rear end of the tractor to provide suction. The fan was connected to a large settling tank and a system of pipes that carry air and seed. The system ends in front with hoods at the bottom of four perpendicular tubes which are raised and lowered by the hydraulic lift. Each hood fits over a grass row. As the machine moves along in the field, the grass seed heads are scooped into the hood momentarily. The easily detachable seed is sucked up, eventually dropping

in the settling chamber. The lighter chaff and debris is blown out behind in the exhaust stream.

This machine, operated by one man, will cover a field at the rate of 2 acres per hour. This new method has appreciably increased the yield of high quality seed of nodding stipa.

Johnson, a man of imagination, mechanical ability and long experience in harvesting operations, received a cash award for his accomplishment. He is continuing to make slight changes and improvements in the vacuum harvester as need arises.

